

Notice of Allowability

Application No.

10/765,108

Examiner

Craig A. Renner

Applicant(s)

NISHIYAMA ET AL.

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to paper(s) filed 10 May 2006.
2. ☒ The allowed claim(s) is/are 1-6 and 8-18 (renumbered 13, 14, 1, 7, 2, 8, 3, 9, 16, 5, 11, 17, 6, 12, 15, 4 & 10, respectively).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

1. The drawings were received on 10 May 2006. These drawings are accepted.
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel J. Stanger on 30 June 2006.

3. The application has been amended as follows:

IN THE TITLE:

The title has been amended to read as follows:

--STORAGE APPARATUS CASING WITH INTERCHANGEABLE
DISK DRIVE AND CONTROL BOXES--.

IN THE CLAIMS:

The claim listing has been amended to read as follows:

1. (Currently amended) A casing for a storage apparatus comprising:

a first receiving portion sized to receive a disc drive box in which a plurality of disc drives are received in a line, said first receiving portion being approximately equal in height and width to said disc drive box; [[and]]

a second receiving portion sized to alternatively receive either of a disc drive box or a control portion box in which a plurality of control boards for executing a control relating to data input and output processes with respect to said disc drives in said disc drive box in said first receiving portion are received in a line, said second receiving portion being approximately equal in height and width to said first receiving portion; and

an air duct arranged within the first receiving portion, said air duct having an outwardly-flaring lower portion open to the second receiving portion and a substantially straight upper portion open at an end thereof opposite said outwardly-flaring lower portion.

2. (Previously presented) A casing for a storage apparatus as claimed in claim 1, wherein said casing for the storage apparatus is provided with a third receiving portion sized to receive a power source portion for supplying an electric power to said control boards and said disc drives, and said third receiving portion is provided below said second receiving portion.

3. (Previously presented) A storage apparatus comprising:

a casing including:

a first receiving portion for receiving a disc drive box in which a plurality of disc drives are received in a line, said first receiving portion being approximately equal in height and width to said disc drive box;

a second receiving portion for receiving a control portion box in which a plurality of control boards for executing a control relating to data input and output processes with respect to said disc drives are received in a line, said second receiving portion being approximately equal in height and width to said first receiving portion; and

a third receiving portion for receiving a power source portion for supplying an electric power to said control boards and said disc drives, and said third receiving portion is provided below said second receiving portion;

a plurality of said disc drives received in said disc drive box received in said first receiving portion;

a plurality of said control boards received in said control portion box received in said second receiving portion; and

said power source portion received in said third receiving portion.

4. (Currently amended) A storage apparatus comprising:

a plurality of casings, each casing including:

a first receiving portion for receiving a disc drive box in which a plurality of disc drives are received in a line, said first receiving portion being approximately equal in height and width to said disc drive box;

a second receiving portion for receiving a control portion box in which a plurality of control boards for executing a control relating to data input and output processes with respect to said disc drives are received in a line, said second receiving portion being approximately equal in height and width to said first receiving portion; and

a third receiving portion for receiving a power source portion for supplying an electric power to said control boards and said disc drives, and said third receiving portion is provided below said second receiving portion;

wherein in one of said casings for the storage apparatus, said disc drive box, in which a plurality of said disc drives are received, is received in said first receiving portion; said control portion box, in which a plurality of said control boards are received, is received in said second receiving portion; and said power source portion is received in said third receiving portion; and in another of said casings for the storage apparatus, said disc drive box, in which a plurality of said disc drives are received, is received in each of said first receiving portion and said second receiving portion; and said power source portion is received in said third receiving portion.

5. (Previously presented) A storage apparatus as claimed in claim 3, wherein the electric power to said control boards and said disc drives by said power source portion is a direct current electric power having a uniform rated voltage.

6. (Previously presented) A storage apparatus as claimed in claim 4, wherein the electric power to said control boards and said disc drives by said power source portion is a direct current electric power having a uniform rated voltage.

7. (Canceled).

8. (Previously presented) A storage apparatus as claimed in claim 3, further comprising an air duct arranged within the first receiving portion, said air duct having an outwardly-flaring lower portion open to the second receiving portion and a substantially straight upper portion open at an end thereof opposite said outwardly-flaring lower portion.

9. (Previously presented) A storage apparatus as claimed in claim 4, further comprising an air duct arranged within the first receiving portion, said air duct having an outwardly-flaring lower portion open to the second receiving portion and a substantially straight upper portion open at an end thereof opposite said outwardly-flaring lower portion.

10. (Currently amended) A casing for a storage apparatus as claimed in claim 1, ~~further comprising:~~

[[an]] wherein said air duct is arranged within the first receiving portion to define an inner air flow path within the air duct and an outer air flow path outside the air duct and within the first receiving portion, ~~said air duct having an outwardly-flaring lower portion open to the second receiving portion and a substantially straight upper portion open at an end thereof opposite said outwardly-flaring lower portion; and~~

wherein said air duct is further arranged within said first receiving portion so that all air flowing from said second receiving portion into said first receiving portion flows into said air duct in said inner flow path substantially without collision or turbulence with air flowing in said outer flow path outside said air duct within said first receiving portion.

11. (Previously presented) A storage apparatus as claimed in claim 3, further comprising:

an air duct arranged within the first receiving portion to define an inner air flow path within the air duct and an outer air flow path outside the air duct and within the first receiving portion, said air duct having an outwardly-flaring lower portion open to the second receiving portion and a substantially straight upper portion open at an end thereof opposite said outwardly-flaring lower portion;

wherein said air duct is further arranged within said first receiving portion so that all air flowing from said second receiving portion into said first receiving portion flows

into said air duct in said inner flow path substantially without collision or turbulence with air flowing in said outer flow path outside said air duct within said first receiving portion.

12. (Previously presented) A storage apparatus as claimed in claim 4, further comprising:

an air duct arranged within the first receiving portion to define an inner air flow path within the air duct and an outer air flow path outside the air duct and within the first receiving portion, said air duct having an outwardly-flaring lower portion open to the second receiving portion and a substantially straight upper portion open at an end thereof opposite said outwardly-flaring lower portion;

wherein said air duct is further arranged within said first receiving portion so that all air flowing from said second receiving portion into said first receiving portion flows into said air duct in said inner flow path substantially without collision or turbulence with air flowing in said outer flow path outside said air duct within said first receiving portion.

13. (Previously presented) A casing for a storage apparatus as claimed in claim 10,

wherein said air duct is further arranged in a central portion within said first receiving portion so as to provide for first and second disc drive boxes on opposite sides thereof, so that all air flowing from said second receiving portion into said first receiving portion between said first and second disc drive boxes flows into said air duct in said

inner flow path substantially without collision or turbulence with air flowing in said outer flow path outside said air duct within said first receiving portion.

14. (Previously presented) A storage apparatus as claimed in claim 11, wherein said air duct is further arranged in a central portion within said first receiving portion so as to provide for first and second disc drive boxes on opposite sides thereof, so that all air flowing from said second receiving portion into said first receiving portion between said first and second disc drive boxes flows into said air duct in said inner flow path substantially without collision or turbulence with air flowing in said outer flow path outside said air duct within said first receiving portion.

15. (Previously presented) A storage apparatus as claimed in claim 12, wherein said air duct is further arranged in a central portion within said first receiving portion so as to provide for first and second disc drive boxes on opposite sides thereof, so that all air flowing from said second receiving portion into said first receiving portion between said first and second disc drive boxes flows into said air duct in said inner flow path substantially without collision or turbulence with air flowing in said outer flow path outside said air duct within said first receiving portion.

16. (Currently amended) A casing for a storage apparatus as claimed in claim [[7]] 1, wherein said air duct is above said second receiving portion.

17. (Previously presented) A storage apparatus as claimed in claim 8, wherein said air duct is above said control boards.


18. (Previously presented) A storage apparatus as claimed in claim 9, wherein said air duct is above said control boards.

Art Unit: 2627

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Monday-Tuesday & Thursday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Craig A. Renner
Primary Examiner
Art Unit 2627

CAR